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A

PHYSIOLOGICAL ESSAY

ON THE

G L A N D S,

TERMED

VESICULÆ SEMINALES.

BY DANIEL D'OYLEY,

OF CHARLESTON, SOUTH CAROLINA.

MEMBER OF THE PHILADELPHIA MEDICAL LYCÆUM,
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MEDICAL SOCIETY.

“Miseris succurrete disco.”

VIRG.

1806
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1806.

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A

PHYSIOLOGICAL ESSAY

ON THE

GLANDS,

TERMED

VESICULÆ SEMINALES,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

SUBMITTED TO THE EXAMINATION

OF THE

MEDICAL PROFESSORS,

THE

REV. JOHN ANDREWS, D. D. PROVOST, (PRO TEM.)

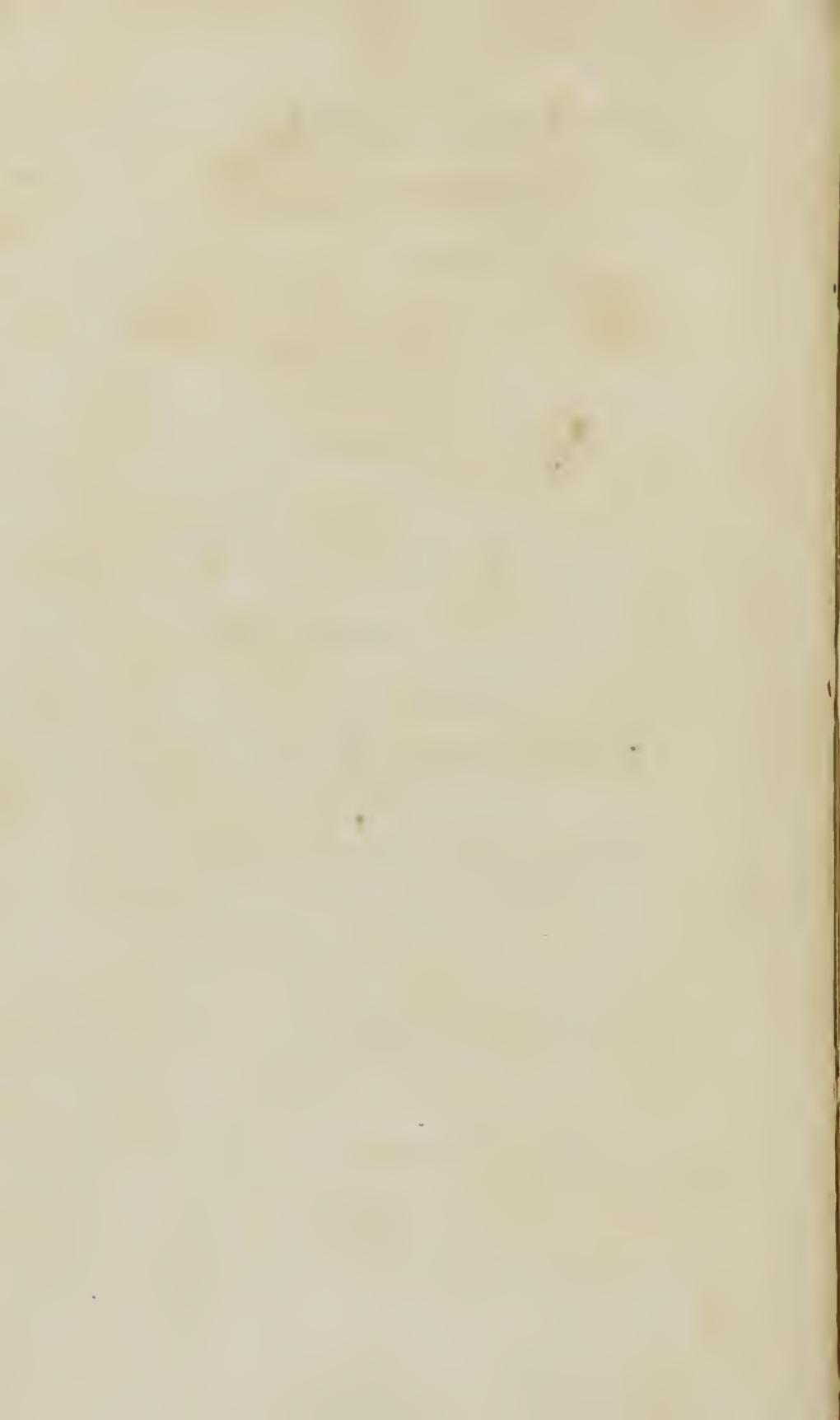
AND

THE TRUSTEES

OF THE

UNIVERSITY OF PENNSYLVANIA,

On the 21st day of April, 1806.



TO
ALEXANDER BARON, M. D.
OF CHARLESTON, SOUTH CAROLINA,
WHOSE
LONG, EXTENSIVE, AND SUCCESSFUL
PRACTICE,
HAS ENDEARED HIM
TO HIS FELLOW CITIZENS,
AND WHOSE
ABILITIES AS A PRACTITIONER
ARE GRACED BY HIS
VIRTUES AS A MAN,
THIS ESSAY IS INSCRIBED,
AS
A TRIBUTARY OFFERING FOR THE IMPORTANT
INSTRUCTIONS GIVEN HIS FRIEND
AND
EVER GRATEFUL PUPIL,
THE AUTHOR.

TO

SAMUEL WILSON, M D.

OF CHARLESTON, SOUTH CAROLINA,

WHOSE

PHILANTHROPY AND MEDICAL TALENTS

ENTITLE HIM

TO

A HIGH ESTIMATION

IN THE MINDS OF THE UNFORTUNATE:

I DEDICATE THIS ESSAY;

FOR THE FRIENDLY ATTENTION

MANIFESTED TOWARDS HIS FRIEND,

AND

GRATEFUL PUPIL,

THE AUTHOR.

TO

JOSEPH GLOVER, M. D.

OF CHARLESTON SOUTH CAROLINA,

FOR

HIS ANXIOUS SOLICITUDE TOWARDS ME

DURING MY MEDICAL STUDIES;

FOR

HIS SUPERIOR ABILITIES

IN THE

VARIOUS BRANCHES OF HIS PROFESSION,

WHICH ARE NOT PARAMOUNT TO HIS

VIRTUES AS A MAN

THIS ESSAY IS INSCRIBED

BY HIS EVER AFFECTIONATE

KINSMAN AND PUPIL,

THE AUTHOR.

TO
CASPAR WISTAR, M. D.
ADJUNCT PROFESSOR
OF
ANATOMY AND MIDWIFERY
IN THE
UNIVERSITY OF PENNSYLVANIA,
THIS ESSAY
IS ALSO INSCRIBED
FOR
THE KIND ADVICE AND POLITE ATTENTION,
RECEIVED FROM HIM
DURING MY STUDIES
IN PHILADELPHIA,
By his
Grateful Friend,
THE AUTHOR.

A

PHYSIOLOGICAL ESSAY &c.

ERRORS established by high authorities are difficult to eradicate; and truth is silenced or overpowered by invincible obstinacy. No science has experienced this fact more than Physiology. The great discoverer of the circulation of the blood, had obloquy returned for his unparalleled addition to the knowledge of the human frame. The most invaluable advancements, as well as the most simple, have invariably met their opponents; whose errors were cloaked with the garb of truth. But in proportion as free enquiry becomes customary, facts are developed.

Among the illustrious men who have lent their aid in investigating the animal oeconomy, is Mr. John Hunter. He, no less ingenious than indefatigable, has thrown the balance in favor of questions which before were suspend-

ed in doubt. It remained for him to correct opinions which were entertained of certain parts of the structure of man. His experiments while they decided some, started other new theories.

This revolution of opinion concerning the animal œconomy, included in its scope those glands termed *vesiculæ seminales*, which are found in many animals, and are situated between the bladder and rectum. It was an undoubted opinion, before that great man's enquiries became public, that they were vesicles or reservoirs for semen; but from the extensive opportunities he had, of investigating the subject, and from the energies of his mind, he supposed that the then general opinion was wrong.

To ascertain the validity of this assertion, I determined to examine the subject, and to abide by the result of experiment. But, before we commence, a few preliminary propositions may not be unnecessary,

1st. To prove that the *vesiculæ seminales* are reservoirs for semen, it is indispensably ne-

cessary that they should communicate with the vasa deferentia, to afford a passage into them.

2ndly. It is equally necessary that the same fluid, in the same animal, should be similar both in the vesiculæ and vasa deferentia.

3dly. What is most necessary to prove that they are reservoirs, is, that the fluid in the vesiculæ should be in the castrated and perfect male, totally different. Each of these points will be considered in its due place.

Man's desire for venery is not materially influenced by any period of the year, but he satiates that appetite in all seasons. That the periods of copulation might be analogous to the human species, I chose the hog, as the subject of these experiments, because his venereal appetite continues promiscuously through each season, though the orgasm is more protracted. The vesiculæ in this animal are situated precisely similar to those in man, but in the boar they are considerably larger, and differ, as they have distinct ducts from those of the vasa deferentia, into the urethra.

The authors who assert that these glands are reservoirs for semen, suppose that this fluid is conveyed by the vasa deferentia from the testicles, and when it arrives at the ducts of the vesiculæ seminales, that it then regurgitates and is carried into them, there to remain till it is necessary for the purposes of generation: they draw this conclusion from analogy, with other parts of the animal œconomy: as the bile takes on a regurgitating action from the Hepatic to the Cystic duct, this comparison may obtain in the human subject, but cannot in many other animals, as the vasa deferentia have not the least communication with the vesiculæ seminales*, and is it reasonable to conclude that these parts should be formed through most of animal creation, and their use only to differ in man? though man is exalted in intellect far beyond brute creation, and ascends a higher sphere, still we see the same mechanical or physical causes influencing both; and except, that great gift of heaven, his power of mind, we discover the same parts discharging the same functions. Independent of this reasoning we have proofs sufficient, that these glands do not

* *Vide Hunter's animal œconomy.*

serve as reservoirs for semen, even in the human race, as no such fluid has been discovered in them: in all the dissections I know, and have heard of, the substance contained in them was of a mucous consistence, and always of a brown colour, very unlike the fluid in the vasa deferentia. Having now premised a few observations on the subject, I will give the result of my experiments, and endeavour to corroborate them by adducing others.

EXPERIMENT 1st.

Having procured a good sized boar, with the assistance of my friend and fellow-graduate, Mr. Simmons, I cautiously dissected out the testes, the vasa deferentia, spermatic cord, with the vesiculæ seminales, bladder and penis. To ascertain with precision whether the vasa deferentia had any communication with the vesiculæ seminales. I introduced a quick-silver pipe into the vas deferens, and injected it. I readily found that the mercury ran into the urethra without filling the vesicula on that side; however, to be more certain, I traced the vas deferens to the urethra, and made a longitudinal in-

cision in it, (viz. the urethra) just where the ducts of the vesiculæ and vasa deferentia open; I again forced the mercury, and could plainly discover the duct of the vas deferens entering into the urethra; I then introduced a piece of wire into the duct of the vesicula on that side. Here I had a plain demonstration that the ducts were different, and also that there was not the least communication between the vas deferens and the vesicula; for had any part been per-vious, the quick-silver would have immediate-ly entered it, and the ducts were totally dis-tinct, as the one belonging to the vas deferens had fluid mercury, and the other a wire. I here then had a right to conclude that no communication exists between them. Having now sufficient proof that the semen had no in-road into the vesiculæ seminales from the vasa deferentia, my next care was to know whether the fluid contained in both was similar.

EXPERIMENT 2nd.

I took the vas deferens and vesicula se-minalis of the same boar, but the opposite of those with which I made the former experiment.

I procured the fluid from the vas deferens, and found it to be of a thick consistence, in colour somewhat resembling milk and water, tinged with a dusky gluten; I immediately took that from the vesicula and compared them, in which they bore not the least resemblance;—that in the vesicula being almost as clear as water, but a little more consistent.

This I thought almost a convincing fact that these glands are not reservoirs for semen;—for had that been their use, certainly the same fluid must have been deposited in them. However the following experiment is immediately to the point, and must be positive.

EXPERIMENT 3rd.

I dissected out the vesiculæ seminales in a castrated hog, soon after my last experiment; They are not so large in the castrated as the uncastrated hog. This though is not to the point; the fluid is what we wish. I took the fluid contained in the vesiculæ of the boar and compared it with this of the barrow, and found them precisely similar. This experiment I thought sufficiently conclusive.

From these facts it is presumable, that the true use of the glands called vesiculae seminales is not that of retaining semen:—but that no circumstance to corroborate this opinion may be wanting, I will illustrate it by producing experiments performed by Mr. John Hunter; whose accuracy and judgment is so famed; I could add no comment. We have hitherto considered the animal either as a perfect male or as emasculated. These cases are, if any, still more pertinent and illustrative.

CASE 1st.

“A man who was under my care in St. George’s Hospital, for a venereal complaint, “died there, and was discovered to have lost his “right testicle. From the cicatrix being hard-“ly observable, it must have been removed “some considerable time before his death; and “the complaint for which he was received in-“to the Hospital is a convincing proof that he “had connection with woman after that period.

“I inspected the body in the presence of “Mr. Hodges, House-Surgeon, and several of “the pupils of the Hospital. Upon dissecting

"out and examining the contents of the pelvis,
"with the penis and scrotum, I found that the
"vas deferens of the right side was smaller and
"firmer in its texture than the other, especial-
"ly at that end next to the abdominal ring,
"near to the part that had been cut through in
"the operation. The cellular membrane sur-
"rounding the duct on the right side, was not so
"loose as on the left, neither were the vessels
"which ramified on the right vesicula, so full
"of blood. But upon opening the vesiculæ,
"both appeared to be filled with a kind of mu-
"cus similar to that which is found in other
"dead bodies, and the vesicula of the right side
"was rather larger than that on the left. What-
"ever therefore may be the real use of these
"vesiculæ, we have a proof from this dissec-
"tion, that in the human subject they do not
"contain semen."

This case is very intimately and immediately connected with the subject in question. Here we have a plain fact; had the use of the vesiculæ been to retain semen after its secretion from the testicle, then certainly during the first connection this man had with woman, after the loss of his testicle, the semen then

contained in the right vesicula would have been discharged, and as no secretion could take place, neither could it be replenished with mucus, without a secretion sui generis.

CASE 2d.

“ A young man, a coachman, who had a
“ disease in his left testicle, had it removed at St.
“ George’s Hospital, by Mr. Walker, in August,
“ 1785, and in February 1786, he returned
“ again to the Hospital, on account of uncom-
“ mon pains all over him, and for which he
“ requested to be put into the warm bath ; but
“ as he was going from the ward to the bath
“ he dropped down and died almost immedi-
“ ately. The body was inspected with a view
“ to discover the cause of his death : and upon
“ an examination of the vesiculæ, the bag of
“ the left side was as full as that on the right,
“ and the contents in both were exactly si-
“ milar.”

Mr. Hunter relates a variety of other interesting dissections, and many experiments which

he made on different animals, clearly disproving the glands now in question to be those of seminal reservoirs.*

Having now adduced such examples as were thought most conclusive, in support of this new opinion, we will now make such deductions as could naturally be inferred from the preceding remarks.

In the preliminary observations it was noticed, that to prove the glands called vesiculæ seminales, reservoirs for semen, it was undoubtedly necessary that a communication should exist between them and the vasa deferentia. It was then remarked also, that this observation might obtain in the human subject, as a communication does exist, but could not in many other animals....and that even this passage from those glands to the ducts of the vasa deferentia, was no decisive proof that semen should necessarily be retained there, as no such fluid had been discovered in them, from many repeated dissec-

* *Vide Hunter's animal oeconomy.*

tions. The experiment I made to ascertain whether there was any communication in those parts of a hog, I trust, was sufficiently satisfactory, and this we know to be a most salacious animal : I endeavoured to shew also that the fluid in the vas defrensi was dissimilar in the same animal, from that in the vesiculae. Had they been intended for the purposes generally allotted them, certainly the fluid would have appeared the same.

Again, in my last experiment I was sufficiently convinced, that they could not be intended as reservoirs for semen, though the vesiculae in the castrated animal were smaller than those in the perfect male, and the fluid was also less, still upon examination, they had a perfect resemblance, both in colour and consistence.

These are the facts which have induced me to adopt Mr. Hunter's opinion. I have shewn these glands cannot serve as receptacles for semen in the hog; ...perhaps this may obtain in many other animals : experiments on which would no doubt elucidate the subject. The period allotted me to prepare this treatise, was too

limited for me to enter on a deeper examination of this interesting question. The field of investigation yet lies widely open, and invites the experimentalist to rove, perhaps to twine a wreath and crown himself with fame.

F I N I S.

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